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SUBJECT: Forwards revised augmented insp program for IGSCC susceptible welds. Program revised in accordance w/ recommendations in NUREG-1061. Program will be implemented in Feb 1986 & completed by June 1993.

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Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Project Director
BWR Project Directorate No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
UNIT #1 AUGMENTED INSPECTION OF SS PIPEWELDS
ER 100450 FILE 899
PLA - 2557 Docket No. 50-387

Dear Ms. Adensam:

The purpose of this letter is to transmit to you Pennsylvania Power & Light Company's revised augmented inspection program for IGSCC susceptible welds. The program was revised in accordance with the recommendations found in NUREG-1061 because:

1. NUREG-1061 allowed credit for performance of IHSI as a counter measure against IGSSC, and

2. NUREG-0313, Rev. 2 is not yet available.

This program will be implemented starting with Unit 1's second refueling and inspection outage (2/86) and will be completed by the end of the first Section XI ten year interval (6/93).

If you have any questions, please contact us.

Very truly yours,

H. W. Keiser
Vice President - Nuclear Operations

cc: M. J. Campagnone USNRC
R. H. Jacobs USNRC

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ADD:

Inspection Program For Detection of IGSCC

Guidance in preparation of this inspection program was taken from NUREG 1061 (Ref. 1). It is intended that this program replace, in its entirety, the inspection program requirements of NUREG 0313, Revision 1, in so far as scope and schedule.

BACKGROUND:

Unit #1 of the Susquehanna Steam Electric Station was declared to be in commercial operation on June 8, 1983. During the Unit#1 First Refueling Outage (2/85-6/85) a group of stainless steel welds evaluated by PP&L as susceptible to IGSCC received IHSI treatment and subsequent NDE in accordance with commitments to both NUREG 0313 and Generic Letter 84-11. All examination results were acceptable.

REFERENCES:

1) NUREG 1061, Volume 1, "Investigation and Evaluation of Stress Corrosion Cracking in Piping and Boiling Water Reactor Plants"

2) PP&L Document #ISI-T-106.0, "Inservice Inspection Program Plan, First Ten Year Interval", Revision 1.

DEFINITIONS:

Resistant Materials include any of the following:

1) 304L, 316L, 316K, 304NG, 316NG, 347NG, 308L

2) Low Strength Carbon Steels

3) Approved Nickel-Based Materials

4) Cast Low-Carbon/High Ferrite Austenitic stainless Steels

5) Welds solution heat-treated after fabrication and welding

6) Corrosion resistant cladding

Countermeasure A is defined as any combination of two mitigating processes which are intended to reduce or minimize any two of the three causes (i.e., sensitization, stress, and environment) contributing to IGSCC.

Countermeasure B is defined as any one mitigating process of those accepted processes.

Mitigating Processes include the following: IHSI, HSW, Hydrogen Water Chemistry.

Routine Section XI Program for Class 1 Welds is as defined in Relief Request No. 1RR-10 of Reference 2.

PROGRAM DETAILS:

Weld Category	Condition	Inspection Required
A	Resistant Material or Countermeasure A applied	Routine ASME Section XI Program for Class 1 welds.
B	Nonresistant Material with Countermeasure B applied	50% of the welds of each pipe size in 10 years. At least one-third of these should be inspected every three and one-third years or the nearest refueling outage.
C	Nonresistant Material with No Countermeasure Applied	100% in 6 years. At least one-half of these should be inspected every three and one-third years or the nearest refueling outage.

WELD CATEGORY A

All welds in Category A are made of resistant materials. Countermeasure A has not been applied to SSES #1.

WELD CATEGORY B

One hundred and eleven (111) SSES #1 welds fall into weld Category B.

All these welds have received IHSI and have no reported indications. The table below lists the number of welds in each pipe size, the affected systems, and the number to be selected for inspection.

Diameter	No. of Welds	Affected Systems	50%
4"	22	RWCU, RR	11
12"	14	CS, RR	7
20"	14	RHR	7
22"	2	RR	1
24"	27	RHR	14
28"	32	RR	16
	111		56

WELD CATEGORY C

Eight (8) SSES #1 welds (Class 2 and Class 3 only) fall into weld Category C. These welds are of a non- resistant material and have had no countermeasures applied.

A total of sixty-four (64) welds will be examined in accordance with the above Category B/C inspection program. The remaining stainless steel welds will be examined in accordance with the routine ASME Section XI program. The required augmented inspections will be spread out over the interval with at least one-third of the welds inspected per period (three and one-third years). The program will commence during the next (second) U#1 refueling outage and shall be completed by the end of the first Section XI ten (10) year interval (i.e., June 8, 1993 plus/minus any grace periods as allowed in Section XI.)

ms/1049c:mg